Office Action Summary	Application No.	Applicant(s)	
	09/729,646	SMITH, KENNETH	
	Examiner	Art Unit	
	Huyen Vo	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/04/2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☒ Claim(s) *1, 4, 6, 9, 16, and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 December 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *08* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Notice of References Cited	Application/Control No. 09/729,646	Applicant(s)/Patent Under Reexamination SMITH, KENNETH	
	Examiner Huyen Vo	Art Unit 2655	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
HV	A	US-6,615,172	09-2003	Bennett et al.	704/257
HV	B	US-6,278,967	08-2001	Akers et al.	704/2
HV	C	US-5,265,065	11-1993	Turtle, Howard R.	707/4
HV	D	US-5,634,084 ✓	05-1997	Malsheen et al.	704/260
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: quotation is missing for the word "red" on page 2, line 19 and the word "systems" on page 13, line 27 should be in a singular form. Also, the disclosure is objected to because the term "voice recognition" is misused for what nowadays is called --**speech recognition**-- in the speech signal processing art. While "voice recognition" and "speech recognition" were both once used interchangeably to refer to spoken word recognition, nowadays the terms are distinguished. The term "**voice** recognition" now denotes identification of ***who*** is doing the speaking (class 704/246), while "**speech** recognition" (or "**word** recognition") denotes identification of ***what*** is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

Claim Objections

2. Claims 1, 4, 6, 9, 16 and 18 are objected to because of the following informalities: The claims are objected to because the term "voice recognition" is misused for what nowadays is called --**speech recognition**-- in the speech signal processing art. While "voice recognition" and "speech recognition" were both once used interchangeably to refer to spoken word recognition, nowadays the terms are distinguished. The term "**voice** recognition" now denotes identification of ***who*** is doing the speaking (class 704/246), while "**speech** recognition" (or "**word** recognition")

denotes identification of ***what*** is being said (class 704/251). So, appropriate correction to the proper terms of art is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 9-11 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. (US. Patent No. 6,615,172) in view of Akers et al. (US. Patent No. 6,278,967)

3. Referring to claim 9, Bennett et al. discloses a method of enabling an item to be located by a voice-based search query (col.11, ln. 9-11), the method comprising:

extracting a phrase from text of the item (col. 11, ln. 13-17, the word "answer" could be considered a phrase); and

storing at least some of the utterances of the set within a voice recognition grammar used to interpret the voice–based search query (col. 27, ln. 33-36);

Bennett et al. fails to specifically disclose a method for translating the phrase into a set of utterances consisting of (a) individual terms of the phrase, and (b) all ordered

combinations of two or more consecutive terms of the phrase. However, Akers et al. teaches a method for translating the phrase into a set of utterances consisting of (a) individual terms of the phrase and (b) all ordered combinations of two or more consecutive terms of the phrase (col. 6, ln. 56-62).

Since Bennett et al. and Akers et al. are analogous art because they are from the same field of endeavors, namely speech recognition grammar construction, it would have been obvious to one of ordinary skill in art to modify Bennett et al. by employing a method for expanding phrases and forward combining of individual terms as taught by Akers et al. in order to enhance the speech recognition capabilities by recognizing both single-term and multiple-term utterances to reduce processing time.

4. Referring to claim 10, Bennett et al. further discloses a method wherein extracting phrases comprises extracting titles of the items (col. 35, ln. 33-35 and col. 36, ln. 13-16).

5. Referring to claim 11, the modified Bennett et al. fails to specifically disclose a method wherein storing at least some of the utterances comprises filtering out at least one utterance according to a set of heuristics, but Akers et al. further suggests excluding at least some of the phrases according to a set of heuristics (col. 6, ln. 61-62) and a storage for storing input 18 that is already processed by system 16 (figure 1).

Since the modified Bennett et al. and Akers et al. are analogous art because they are from the same field of endeavors, namely recognition grammar construction, it

would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by incorporating a method for removing some of the utterances according to a set of heuristics as taught by Akers et al. in order to avoid recognition of unnecessary utterances to speed up the recognition process.

6. Referring to claim 15, the modified Bennett et al. discloses all the limitations of claim 15, but fails to specifically disclose a method wherein the phrase comprises at least three terms. However, Akers et al. teaches a method for wherein the phrase comprises at least three terms (col. 6, ln. 59-62).

Since the modified Bennett et al. and Akers et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by having the phrase comprises at least three terms as taught by Akers et al. in order to avoid a large number of forward combinations of terms to reduce processing time.

7. Referring to claim 16, Bennett et al. further discloses a system for conducting voice based searches within a domain of items (figure 1), comprising:

a voice recognition system that interprets voice search query from users (figures 11A, 11B, and 11C);

a grammar which specifies to the voice recognition system valid utterances for interpreting the voice search queries (col. 27, 33-34).

Bennett et al. fails to disclose a system wherein the grammar comprises both single-term and multiple-term utterances derived from the items within the domain, and said multi-term utterances consist primarily of forward combinations derived from phrases within text of the items. However, Akera et al. further teaches a system comprises both single-term and multiple-term utterances derived from the items within the domain, and said multi-term utterances consist primarily of forward combinations (col. 6, ln. 56-62) derived from phrases within text of the items.

Since Bennett et al. and Akers et al. are analogous art because they are from the same field of endeavors, namely voice-based search system, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by incorporating into the grammar both single-term and multiple-term utterances as taught by Akers et al. in order to enhance the speech recognition capabilities by recognizing both single-term and multiple-term utterances to reduce processing time.

8. Referring to claim 17, Bennett et al. discloses a process for extracting titles of the items (col. 35, ln. 33-35 and col. 36, ln. 13-16). The modified Bennett et al. in accordance with claim 16 above would obviously show the process for forward combining of individual terms of the title.

9. Referring to claim 18, Bennett et al. further discloses a system wherein the voice recognition system uses the grammar to interpret voice queries of title searches (figure 4A).

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. (US. Patent No. 6,615,172) in view of Turtle (US. Patent No. 5,265,065), and further in view of Akers et al. (US. Patent No. 6,278,967).

10. Referring to claim 1, Bennett et al. discloses a method of specifying to a voice recognition system a set of valid utterances for interpreting voice-based queries for items within a domain of items (col. 27, ln. 31-35), the method comprising:

extracting phrases from at least some of the items within the domain (col. 11, ln. 13-17);

incorporating at least some of utterances into the voice recognition grammar (col. 27, ln. 33-36); and

providing the voice recognition grammar to the voice recognition system (col. 27, ln. 28-29).

Bennett et al. fails to specifically disclose a method for expanding each phrase into a set consisting of individual terms of the phrase, and forward combining of terms within the phrase, to thereby generate a set of utterances which includes both single-term and multiple-term utterances. However, Turtle teaches a method for expanding each phrase into a set consisting of individual terms of the phrase (col. 8, ln. 41-42).

Since Bennett et al. and Turtle are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in art to modify Bennett et al. by employing a method for expanding phrases into individual

terms as taught by Turtle in order for the system to forward combine individual terms to reduce recognition processing time.

The combination of Bennett et al. and Turtle still fails to specifically disclose a method for forward combining terms within the phrase. However, Akers et al. teaches a method for forward combining terms within the phrase, to thereby generate a set of utterances which includes both single-term and multiple-term utterances (col. 6, ln. 56-62).

Since all three inventions are analogous art because they are from the same field of endeavors, namely speech recognition grammar construction, it would have been obvious to one of ordinary skill in art to further modify Bennett et al. by employing a method for expanding phrases and forward combining individual terms as taught by Akers et al. in order to enhance the speech recognition capabilities by recognizing both single-term and multiple-term utterances to reduce processing time.

11. Referring to claim 2, Bennett et al. further discloses a method wherein extracting phrases comprises extracting titles of the items (col. 35, ln. 33-35 and col. 36, ln. 13-16).

12. Referring to claim 3, the modified Bennett et al. discloses all the limitations of claim 3, but fails to specifically disclose a method for extracting phrases further comprises dividing a title having more than a predefined number of terms into multiple

phrases. However, Akers et al. further teaches a method for dividing long title into multiple phrases (col. 6, ln. 56-59).

Since the modified Bennett et al. and Akers et al. are analogous art because they are from the same field of endeavors, namely voice-base search system, it would have been obvious to one of ordinary skill in art to further modify Bennett et al. by employing a method for dividing a long title into multiple phrases as taught by Akers et al. in order to avoid a large number of forward combinations of terms to reduce processing time.

13. Referring to claim 4, Bennett et al. further discloses a method further comprising using the voice recognition grammar and the voice recognition system to interpret voice-based query of a title search (figure 4A).

14. Referring to claim 5, Bennett et al. further discloses a method further comprising extracting individual terms from at least some of the items (col. 11, ln. 9-11), and incorporating at least some of the individual terms into the grammar (col. 27, ln. 33-34).

15. Referring to claim 6, the modified Bennett et al. discloses all the limitations of claim 6 in accordance with claim 1 above, but fails to disclose a method wherein incorporating at least some of the single-term and multiple-term utterances into the voice recognition grammar comprises removing at least some of the utterances according to a set of heuristics. However, Akers et al. further suggests excluding at

least some of the phrases according to a set of heuristics (col. 6, ln. 61-62) and a storage for storing input 18 that is already processed by system 16 (figure 1).

Since the modified Bennett et al. and Akers et al. are analogous art because they are from the same field of endeavors, namely recognition grammar construction, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by incorporating a method for excluding some of the utterances according to a set of heuristics as taught by Akers et al. in order to avoid recognition of unnecessary utterances to speed up the recognition process.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. (US. Patent No. 6,615,172) in view of Akers et al. (US. Patent No. 6,278,967) and further in view of Turtle (US. Patent No. 5,265,065).

16. Referring to claim 12, the modified Bennett et al. in accordance with claim 9 above fails to specifically disclose a method further comprising removing a duplicate phrase within the title prior to translation into the set of utterances. However, Turtle further teaches a method for removing duplicate phrase (col. 12, ln. 46-47).

Since the modified Bennett et al. and Turtle are analogous art because they are from the same field of endeavors, namely voice-based search system, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by incorporating a method for removing a duplicate phrase as taught by Turtle in order to avoid a large number of forward combinations of terms to reduce processing time.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. (US. Patent No. 6,615,172) in view of Akers et al. (US. Patent No. 6,278,967), and further in view of Malsheen et al. (US. Patent No. 5,634,084)

17. Referring to claim 13, the combination of Bennett et al. and Akers et al. discloses all the limitations of claim 13 as mentioned in (5), but fails to specifically disclose a method further comprising converting a number within multiple-term utterance produced by the phrase expansion into a multiple-word counterpart. However, Malsheen et al. teaches a method for converting numbers into word counterparts (col. 7, ln. 59-62).

Since the modified Bennett et al. and Malsheen et al. are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by employing a method for converting numbers into word counterparts as taught by Malsheen et al. in order to facilitate the speech recognition system to correctly recognize input utterances to make the recognition system more reliable.

18. Referring to claim 14, the combination of Bennett et al. and Akers et al. discloses all the limitations of claim 14 as mentioned in (5), fails to specifically disclose a method further comprising expanding an acronym within a multiple-term utterance produced by the phrase expansion into a multiple-word counterpart. However, Malsheen et al. teaches a method for expanding an acronym into word counterpart (col. 12, ln. 23-27).

Since the modified Bennett et al. and Malsheen et al. are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by employing a method for expanding an acronym into word counterpart as taught by Malsheen et al. in order to facilitate the speech recognition system to correctly recognize input utterances to make the recognition system more reliable.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. (US. Patent No. 6,615,172) in view of Turtle (US. Patent No. 5,265,065), and further in view of Akers et al. (US. Patent No. 6,278,967), and further in view of Malsheen et al. (US. Patent No. 5,634,084).

19. Referring to claim 7, the combination of Bennett et al. Turtle, and Akers et al. discloses all the limitations of claim 7 as mentioned in (12), but fails to specifically disclose a method further comprising converting a number within multiple-term utterance produced by the phrase expansion into a multiple-word counterpart. However, Malsheen et al. teaches a method for converting numbers into word counterparts (col. 7, ln. 59-62).

Since the modified Bennett et al. and Malsheen et al. are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by employing a method for converting numbers into word counterparts as

taught by Malsheen et al. in order to facilitate the speech recognition system to correctly recognize input utterances to make the recognition system more reliable.

20. Referring to claim 8, the combination of Bennett et al. Turtle, and Akers et al. discloses all the limitations of claim 8 as mentioned in (12), but fails to specifically disclose a method further comprising expanding an acronym within a multiple-term utterance produced by the phrase expansion into a multiple-word counterpart. However, Malsheen et al. teaches a method for expanding an acronym into word counterpart (col. 12, ln. 23-27).

Since the modified Bennett et al. and Malsheen et al. are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art to further modify Bennett et al. by employing a method for expanding an acronym into word counterpart as taught by Malsheen et al. in order to facilitate the speech recognition system to correctly recognize input utterances to make the recognition system more reliable.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Baker et al. (US. Patent No. 5,754,972) discloses a speech recognition system for recognizing a compound word, which is made up of a succession of one or more words, and thus a compound word is considered a forward combination of individual words).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen Vo whose email address is: huyen.vo@USPTO.GOV.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Huyen X. Vo October 6, 2003

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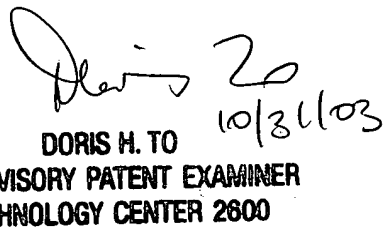

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